MODEL BUILDING FOR FRUIT DISEASE PREDICTION

```
test_dir=r'C:\Users\maris_q3mm6nk\Desktop\FILES\data_for_ibm\Fertilizers_Re
commendation_ System_For_Disease_ Prediction\Dataset Plant Disease\fruit-
dataset\fruit-dataset\test'
```

In [47]:

```
import tensorflow as tf
from tensorflow import keras
from tensorflow.keras.preprocessing.image import ImageDataGenerator
```

In [48]:

```
model =
tf.keras.models.load_model(r'C:\Users\maris_q3mm6nk\Desktop\FILES\data_for_
ibm\Fertilizers_Recommendation_ System_For_Disease_ Prediction\Dataset
Plant Disease\fruitdata.h5')
```

In [49]:

```
test_datagen_1=ImageDataGenerator(rescale=1)
test_generator_1=test_datagen_1.flow_from_directory(
    test_dir,
    target_size=(128,128),
    batch_size=20,
    class_mode='categorical'
)
```

```
Found 1686 images belonging to 6 classes.
```

In [50]:

```
import numpy as np
from tensorflow.keras.models import load_model
from tensorflow.keras.preprocessing import image
```

In [51]:

```
img=image.load_img(r"C:\Users\maris_q3mm6nk\Desktop\FILES\data_for_ibm\Fert
ilizers_Recommendation_ System_For_Disease_ Prediction\Dataset Plant
Disease\fruit-dataset\fruit-dataset\train\Corn_(maize)___healthy\9faacf6a-
f638-435a-8994-f1418b332199___R.S_HL 8102 copy 2.jpg")
```

In [52]:

```
img
```

Out[52]:

In [55]:

```
img=image.load_img(r"C:\Users\maris_q3mm6nk\Desktop\FILES\data_for_ibm\Fert
ilizers_Recommendation_ System_For_Disease_ Prediction\Dataset Plant
Disease\fruit-dataset\fruit-dataset\train\Corn_(maize)___healthy\9faacf6a-
f638-435a-8994-f1418b332199___R.S_HL 8102 copy
2.jpg",target_size=(128,128))
x=image.img_to_array(img)
x=np.expand_dims(x,axis=0)
y=np.argmax(model.predict(x),axis=1)
index=['Apple___Black_rot', 'Apple___healthy', 'Corn_(maize)___healthy',
'Corn_(maize)___Northern_Leaf_Blight', 'Peach___Bacterial_spot',
'Peach___healthy']
index[y[0]]
```

```
1/1 [==============================] - 0s 57ms/step
```

Out[55]:

```
'Corn_(maize)___Northern_Leaf_Blight'
```

In [56]:

```
model.evaluate(test_generator_1,steps=50)
```

```
50/50 [==============================] - 4s 76ms/step - loss: 1036.1377 - a
ccuracy: 0.6220
```

Out[56]:

```
[1036.1376953125, 0.621999979019165]
```

In [ ]:

In [ ]:

In [ ]: